



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Tetsuo YAMAGUCHI

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For: PHOTOTHERMOGRAPHIC MATERIAL

DECLARATION UNDER 37 CFR 1.132

Honorable Commissioner of Patents and Trademarks,
Washington, D.C. 20231

Sir:

I, Tetsuo YAMAGUCHI, a Japanese citizen, having a post office address of c/o Fuji Photo Film Co., Ltd., No.210, Nakanuma Minami-ashigara-shi, Kanagawa 250-0193 Japan, hereby declare and state that I received a Master's Degree from Tokyo University, Faculty of Engineering in March of 1988. I was employed by Fuji Photo Film Co., Ltd. in April of 1988 and since that time I have been principally engaged in research and development of photosensitive materials at the Ashigara Research Laboratories of said company.

I declare further that I am the inventor of the above-identified application and I have read all of the documents contained in the file wrapper of the above-entitled application.

I declare further that the test described below was conducted at my

direction and under my supervision and the test results are true and correct to the best of my knowledge.

EXPERIMENT AND RESULTS

Photothermographic Materials 1-9 to 1-19 were prepared in the same manner as described in Example 1 of the present specification except that the compounds shown in the table below were used. These materials were evaluated in the same manner as described in Example 1.

Results are shown in the following table.

Sample No.	Compound of the present invention or comparative compound (*)		Compound of formula (I)	Developed silver grain density (%)	Covering power (%)	Dmin	Dmax	Sensitivity	γ	Dmin (after leaving)	Notes
	Type	Amount									
1-1	—	—	—	100	100	0.12	1.6	0.50	2	0.18	Comparative
1-9	—	—	Compound 95 of JP '136	100	100	0.12	1.7	0.60	2	0.17	Comparative
1-10	C-1 of Ito '084	3 g	—	1400	230	0.12	3.6	1.00	15	0.21	Comparative
1-11	C-1 of Ito '084	3 g	Compound 95 of JP '136	1400	230	0.12	3.7	1.35	15	0.16	Invention
1-12	C-42 of Ito '084	10 g	—	1400	220	0.13	3.5	1.00	16	0.20	Comparative
1-13	C-42 of Ito '084	10 g	Compound 95 of JP '136	1400	220	0.12	3.6	1.30	16	0.16	Invention
1-14	C-8 of Ito '084	3 g	—	1400	230	0.13	3.6	0.95	15	0.20	Comparative
1-15	C-8 of Ito '084	3 g	Compound 95 of JP '136	1400	230	0.12	3.7	1.25	15	0.16	Invention
1-16	C-57 of Ito '084	10 g	—	1300	220	0.12	3.6	1.00	15	0.21	Comparative
1-17	C-57 of Ito '084	10 g	Compound 95 of JP '136	1300	220	0.12	3.6	1.35	16	0.16	Invention
1-18	54a of Ito '084 (*)	5 g	—	900	190	0.13	3.2	0.95	11	0.22	Comparative
1-19	54a of Ito '084 (*)	5 g	Compound 95 of JP '136	1000	200	0.13	3.3	1.15	11	0.19	Comparative

(Notes) "Compound of the present invention" is a compound satisfying both (iv) and at least one of (i) to (iii) in Claim 1. Compound 54a of Ito '084 (*) is not "compound of the present invention".

DISCUSSION

Ito '084 discloses photothermographic materials containing Compounds C-1, C-42, C-8, C-57 or 54a but fails to disclose compounds of formula (I). The above table shows that Photothermographic Materials 1-10, 1-12, 1-14, 1-16 and 1-18 representing the invention of Ito '084 exhibit poor sensitivity and high fog after leaving.

Photothermographic Materials 1-11, 1-13, 1-15, 1-17 and 1-19, that correspond to Photothermographic Materials 1-10, 1-12, 1-14, 1-16 and 1-18, respectively, contain a compound of formula (I) additionally. Test results of Photothermographic Materials 1-10 to 1-17 indicate that high sensitivity and low fog after leaving can be achieved by using a compound of the present invention and a compound of formula (I) in combination. However, Photothermographic Material 1-19 using Compound 54a (hydrazine compound) and a compound of formula (I) in combination exhibits low sensitivity, poor contrast and high fog after leaving.

Thus, it is shown that the claimed combination can only achieve low fog, high Dmax, improved sensitivity and high contrast. I believe that no one skilled in the art would have been motivated to select the compounds of the present invention among the compounds exemplified in Ito '084 and then combine the selected compounds with compounds of formula (I) in order to attain low fog, high Dmax, improved sensitivity and high contrast, before the claimed invention was made. I also believe that no one skilled in the art could have predicted that the claimed combination actually produces low fog, high Dmax, improved sensitivity and high contrast, before the claimed invention was made. I trust that the claimed invention is patentable.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

Dated this 27 day of January, 2004.

Tetsuo Yamaguchi

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